COMPARISON OF INTRAMEDULLARY FIXATION DEVICE VS K-WIRE FOR HAMMERTOE CORRECTION

Ryan T. Scott DPM, AACFAS
Christopher F. Hyer DPM, MS, FACFAS
Bryan Witt, DO

1Orthopedic Foot & Ankle Center, Columbus, OH
2Doctors Hospital, Columbus, OH
Disclosure

Comparison of intra-medullary fixation device vs K-wire for Hammertoe correction

Ryan T. Scott, DPM, AACFAS

Our disclosures are in the Final AOFAS Program Book. There is a potential conflict with this presentation due to: Consultant, Wright Medical (CFH)
Hammertoe Etiology

• Metatarsophalangeal instability
  – Plantar plate insufficiency
• Hallux abducto-valgus
• Biomechanical abnormalities
Surgical Intervention

- **K-wires**
- **PROTOE™**
- **SmartToe®**
- **StayFuse™**
- **Screws**
- **Absorbable pins**
K-wire: The GOLD Standard?

• Revision\(^1\)
  – 2.5% failure rate with 1.1 mm (0.045 inch).

• Infection\(^2\)
  – 18%.

• Nonunion\(^3\)
  – 20%

Materials and Methods

• IRB approved retrospective chart and radiographic review

• September 2010 to September 2011
  – N = 253
    • 190 K wires
    • 63 PROTOE

• Age
  – KW = 58.3 ± 12.2 years (17-86)
  – PT = 55.8 ± 11.3 years (27-76)
Results

• Nonunion Rate
  – PT= 20 / 63 (1.2%)
  – KW= 142 / 190 (3.2%)
    • P>0.05 Non-sign. difference

• Time to Union (weeks)
  – PT= 10.3 ± 4.67 (5-26)
  – KW= 9.1 ± 3.42 (5-21)
    • P>0.05 Non-sign. difference
## Results

<table>
<thead>
<tr>
<th></th>
<th>Malunion</th>
<th>Hardware Complication</th>
<th>Infection</th>
<th>Recurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>K Wire</td>
<td>7</td>
<td>37</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Protoe</td>
<td>4</td>
<td>14</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>
Reference

THANK YOU